

16. The nucleic acid marker ladder according to claim 15, wherein said at least 3 nucleic acid fragments result from digestion of a nucleic acid by one or more restriction endonucleases.

17. The nucleic acid marker ladder according to claim 16, wherein said at least 3 nucleic acid fragments are generated simultaneously in one reaction.

18. The nucleic acid marker ladder according to claim 15, wherein said integer is approximately 10 or more.

19. The nucleic acid marker ladder according to claim 18, wherein said integer is approximately 10.

20. The nucleic acid marker ladder according to claim 18, wherein said integer is approximately 25.

21. The nucleic acid marker ladder according to claim 18, wherein said integer is approximately 50.

22. The nucleic acid marker ladder according to claim 18, wherein said integer is approximately 100.

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23. A nucleic acid marker kit comprising a carrier means having in close confinement therein at least one container means where the first container means contains a nucleic acid marker ladder comprising at least 3 nucleic acid fragments, wherein the size of each of said fragments in base pairs is approximately a multiple of an integer.

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24. The nucleic acid marker kit according to claim 23, wherein said at least 3 nucleic acid fragments results from digestion of a nucleic acid by one or more restriction endonucleases.

25. The nucleic acid marker kit according to claim 24, wherein said at least 3 nucleic acid fragments are generated simultaneously in one reaction.

26. The nucleic acid marker kit according to claim 23, wherein said integer is approximately 10 or more.

27. The nucleic acid marker ladder according to claim 26, wherein said integer is approximately 10.

28. The nucleic acid marker ladder according to claim 26, wherein said integer is approximately 25.

29. The nucleic acid marker ladder according to claim 26, wherein said integer is approximately 50.

30. The nucleic acid marker ladder according to claim 26, wherein said integer is approximately 100.

✓ 31. A method of preparing a nucleic acid marker ladder comprising:

- (a) generating at least two polymerase chain reaction (PCR) products wherein each product is generated from a template comprising a restriction endonuclease site and a primer comprising the restriction endonuclease site in the template;
- (b) joining the PCR products to produce a nucleic acid molecule; and
- (c) completely digesting one or more nucleic acid molecules with at least one restriction endonuclease

wherein a nucleic acid marker ladder is produced which comprises at least 3 nucleic acid fragments, wherein the size of each of said fragments in base pairs is approximately a multiple of an integer.

32. The method according to claim 31, wherein said fragments are generated simultaneously in one reaction in step (c).

33. A method of using a nucleic acid marker ladder to estimate the mass of a nucleic acid comprising:

- (a) electrophoresing a known amount of the marker ladder of claim 15 and an unknown amount of said nucleic acid on an agarose gel; and